REMARKS

Reconsideration of the subject application is earnestly solicited.

Claims 61 through 78 are pending, with Claim 61 being independent. Claims 79 through 115 have been cancelled without prejudice, with Claims 79 through 97 having been presented in a divisional application as kindly suggested in the Official Action. Claims 62, 63, 70, and 73 have been amended to reduce the number of independent claims and to simplify declaration of the proposed interference.

The Official Action required that Applicant provide a claim chart under 37 C.F.R. § 41.202(a)(5), and that Applicant propose a count or counts and show how the claims correspond under 37 C.F.R. § 41.202(a)(2). Applicant is complying with this requirement by presenting a Request for Interference below that includes these required items. Favorable consideration is earnestly solicited.

REQUEST FOR INTERFERENCE

Pursuant to 37 C.F.R. § 41.202, Applicant respectfully requests that an interference be declared as set forth below:

I. **37 C.F.R. § 41.202(a)(1) — Identification of patent with which interference is sought**

Applicant identifies the patent with which interference is sought as U.S. Patent No. 5,883,732 ("Takada, et al. '732") to Kyu Takada, et al. ("Takada").

As previously noted, Applicant respectfully submits that the subject application's claims have been copied in modified form from Claims 1 through 4 and 6 through 13 of Takada, et al. '732, as shown by the following Table 1:

TABLE 1

Takada, et al. claims	**subject application claims**
1	61
2	62
3/1	63
3/2	73
4/3/1	64
4/3/2	74
5/4/3/1	
5/4/3/2	
6/5/4/3/1	65
6/5/4/3/2	75
7/6/5/4/3/1	66

Takada, et al. claims	subject application claims
7/6/5/4/3/2	76
8/6/5/4/3/1	67
8/6/5/4/3/2	77
9/8/6/5/4/3/1	68
9/8/6/5/4/3/2	78
10	69
11	70
12	71
13	72

II. 37 C.F.R. § 41.202(a)(2) — Identification of all claims believed to interfere, proposal of one or more counts, and showing how the claims correspond to one or more counts

A. Identification of interfering claims

Applicant respectfully submits that the following claims interfere, as set forth in Table 2 below:

TABLE 2

party	interfering claims
Kato	Claims 61 through 78
Takada	Claims 1 through 13

i.e., all claims of the present application and all claims of Takada, et al. '732.

B. Proposal of counts

Applicant respectfully proposes that the interference be declared with two counts. The proposed counts are set forth as follows in Table 3:

TABLE 3

count #	text of count
1	(a) Kato Claim 61 or (b) Takada Claim 1
2	(a) Kato Claim 62 or (b) Takada Claim 2

Thus, Count 1 defines the following subject matter (where bold has been added to show differences between the two alternatives):

COUNT 1

(a) [Kato Claim 61] In an optical scanner having a source of a light beam, a deflector for deflecting said light beam and an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned, the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and independently of the curvatures in the main scanning direction, and wherein the curvatures in the main and sub-scanning directions are **rotationally** non-symmetrical with respect to the optical axis, or

(b) [Takada Claim 1] In an optical scanner having a source of a light beam, a deflector for deflecting said light beam and an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned, the improvement wherein the curvatures in a sub-scanning direction of **at least** two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and independently of the curvatures in the main scanning direction, and wherein the curvatures in the main and sub-scanning directions are non-symmetrical with respect to the optical axis.

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And Count 2 defines the following subject matter:

COUNT 2

(a) [Kato Claim 62] In an optical scanner having a source of a light beam, a deflector for deflecting said light beam and an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned, the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and independently of the curvatures in the main scanning direction, and wherein the curvatures in the main and sub-scanning directions are **rotationally** non-symmetrical with respect to the optical axis,

wherein the optical magnification of said imaging lens in the sub-scanning direction is constant over the effective scanning region, or

(b) [Takada Claim 2] In an optical scanner having a source of a light beam, a deflector for deflecting said light beam and an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned, the improvement wherein the curvatures in a sub-scanning direction of **at least** two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and independently of the curvatures in the main scanning direction, and wherein the curvatures in the main and sub-scanning directions are non-symmetrical with respect to the optical axis,

wherein the optical magnification of said imaging lens in the sub-scanning direction is constant over the effective scanning region.

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As can be seen, Count 2 differs from Count 1 only in that Count 2 further requires that --the optical magnification of said imaging lens in the sub-scanning direction is constant over the effective scanning region--.

C. **Showing how the claims correspond to one or more counts**

1. Summary

Applicant respectfully submits that the claims correspond to the counts as shown in the following Table 4:

TABLE 4

Count	Claims corresponding to count
1	Kato Claims 61 and 63 through 72, and Takada Claims 1, 3/1, 4/3/1, 5/4/3/1, 6/5/4/3/1, 7/6/5/4/3/1, 8/6/5/4/3/1, 9/8/6/5/4/3/1, and 10-13
2	Kato Claims 62 and 73 through 78, and Takada Claims 2, 3/2, 4/3/2, 5/4/3/2, 6/5/4/3/2, 7/6/5/4/3/2, 8/6/5/4/3/2, and 9/8/6/5/4/3/2

2. **Detailed explanation of claim correspondence**

In the following discussion, for convenience, the alternatives of Count 1 will hereinafter be referred to as "Count 1(a)" and "Count 1(b)", with like usage for Count 2.

a. **Count 1**

Applicant respectfully submits that Kato Claims 61 and 63 through 72, and Takada Claims 1, 3/1, 4/3/1, 5/4/3/1, 6/5/4/3/1, 7/6/5/4/3/1, 8/6/5/4/3/1, 9/8/6/5/4/3/1, and 10-13 correspond to Count 1 as follows:

(1) Kato Claim 61 and Takada Claim 1

Kato Claim 61 and Takada Claim 1 are identical to Counts 1(a) and 1(b) respectively.

(2) Kato Claim 69 and Takada Claim 10

Kato Claim 69 and Takada Claim 10 differ from Count 1 in that they require that the imaging lens has a surface that is aspheric in the main scanning direction. However, Applicant submits that it was known in the art to provide such asphere, as shown by U.S. Patent No. 5,111,219 (Makino, et al.) (e.g., col. 4, lines 56-59). Accordingly, Applicant submits that Kato Claim 69 and Takada Claim 10 would have been obvious over Count 1 in view of Makino, et al.

(3) Kato Claim 70 and Takada Claim 11

Kato Claim 70 and Takada Claim 11 differ from Count 1 in that they recite the aspheric surface discussed above with respect to Kato Claim 69 and Takada Claim 10 and further in that they require that the imaging lens has a surface having a point of inflection in the main scanning direction. However, Applicant submits that it was known in the art to provide the same, as shown by Makino, et al. (e.g., Figs. 1 and 6 through 12). For this reason and the reasons advanced above with respect to Kato Claim 69 and Takada Claim 10, Applicant submits that Kato Claim 70 and Takada Claim 11 would have been obvious over Count 1 in view of Makino, et al.

(4) Kato Claims 71 and 72 and Takada Claims 12 and 13

Kato Claims 71 and 72 and Takada Claims 12 and 13 differ from Count 1 in that they require that the light source has a plurality of light-emitting portions, with Kato Claim 72 and Takada Claim 13 further requiring that the lens is made of plastic or resin respectively. However, Applicant submits that it was known in the art to provide plural light emitting portions, as shown by U.S. Patent No. 5,008,686 (Saito) (e.g., col. 3, lines 47-50), and that the use of resin, as shown by U.S. Patent No. 5,329,399 (Ho) (e.g., col. 4, lines 14-17), or plastic, as shown by Makino, et al. (e.g., col. 4, line 3), was a known expedient. Accordingly, Applicant submits that Kato Claim 71 and Takada Claim 12 would have been obvious over Count 1 in view of Saito, and that Kato Claim 72 and Takada Claim 13 would have been obvious over Count 1 in view of Saito and further in view of either Ho or Makino, et al.

(2) Kato Claim 63 and Takada Claim 3/1

Kato Claim 63 and Takada Claim 3/1 differ from Count 1 in that they require that the imaging lens is a single lens.

However, Applicant submits that it was known in the art to employ a single lens, as shown by Ho (e.g., col. 3, lines 50-54) or Makino, et al. (e.g., col. 4, lines 4 and 55-56). Accordingly, Applicant submits that Kato Claim 63 and Takada Claim 3/1 would have been obvious over Count 1 in view of Ho or Makino, et al.

(3) Kato Claim 64 and Takada Claims 4/3/1 and 5/4/3/1

Kato Claim 64 and Takada Claims 4/3/1 and 5/4/3/1 differ from Count 1 in that they require that the imaging lens is a single lens, and further recite that (a) the entrance face of the imaging lens has a cross section taken in the sub-scanning direction which is concave at the center of scanning and convex at either end of scanning, or (b) the exit face of the imaging lens has a cross section taken in the sub-scanning direction which is convex at the center of scanning and concave at either end of scanning, with Takada Claim 5/4/3/1 requiring both (a) and (b).

However, Applicant submits that the use of a single lens was known in the art as shown by Ho or Makino, et al., as discussed above with respect to Kato Claim 63 and Takada Claim 4/3/1. Applicant further submits that it was known in the art to use a surface having opposite concavity/convexity at the center as compared to the ends, as shown by U.S. Patent No. 5,648,865 (Iizuka) (e.g., Fig. 4). Accordingly, Applicant submits that Kato Claim 64 and Takada 4/3/1 would have been obvious over Count 1 in view of Ho or Makino, et al., and further in view of Iizuka. Since Count 1 recites providing at least --two-- surfaces, Applicant submits that it would have been obvious to apply opposite concavity/convexity as taught by Iizuka to both surfaces of Count 1 so as to arrive at Takada Claim 5/4/3/1. Accordingly, Applicant submits that Takada Claim 5/4/3/1 would have been obvious over Count 1 in view of the same art.

(4) Kato Claims 65, 66, 67, and 68, and Takada Claims 6/5/4/3/1, 7/6/5/4/3/1, 8/6/5/4/3/1, and 9/8/6/5/4/3/1

The above-listed claims differ from Count 1 in the aspects discussed above with respect to Kato Claim 64 and Takada Claim 5/4/3/1 (i.e., the use of a single lens, with the

concavity/convexity of the entrance or entrance and exit surfaces), and further in that they variously recite one or more of the following features:

(a) that the imaging lens has a surface that is aspheric in the main scanning direction (Kato Claims 65, 66, 67, and 68, and Takada Claims 6/5/4/3/1, 7/6/5/4/3/1, 8/6/5/4/3/1, and 9/8/6/5/4/3/1);

(b) that the imaging lens has a point of inflection in the main scanning direction (Kato Claim 66 and Takada Claim 7/6/5/4/3/1);

(c) that the light source has a plurality of light-emitting portions (Kato Claims 67 and 68 and Takada Claims 8/6/5/4/3/1 and 9/8/6/5/4/3/1); and/or

(d) the use of plastic or resin for the imaging lens (Kato Claim 68 and Takada Claim 9/8/6/5/4/3/1).

Applicant submits that features (a) through (d) were known in the art as discussed above with respect to Kato Claims 69 through 72. For this reason and the reasons advanced above with respect to Kato Claim 65 and Takada Claim 5/4/3/1, Applicant submits that Kato Claims 65, 66, 67, and 68, and Takada Claims 6/5/4/3/1, 7/6/5/4/3/1, 8/6/5/4/3/1, and 9/8/6/5/4/3/1 would have been obvious over Count 1 in view of either Ho or Makino, et al., and further in view of Iizuka, and still further in view of Ho, Makino, et al., and Saito in the combinations proposed above.

b. **Count 2**

Applicant respectfully submits that Kato Claims 62 and 73 through 78, and

Takada Claims 2, 3/2, 4/3/2, 5/4/3/2, 6/5/4/3/2, 7/6/5/4/3/2, 8/6/5/4/3/2, and 9/8/6/5/4/3/2 correspond to Count 2 as follows:

(1) Kato Claim 62 and Takada Claim 2

Kato Claim 62 and Takada Claim 2 are identical to Counts 2(a) and 2(b), respectively.

(2) Kato Claims 73, 74, 75, 76, 77, and 78, and Takada Claims 3/2, 4/3/2, 5/4/3/2, 6/5/4/3/2, 7/6/5/4/3/2, 8/6/5/4/3/2, and 9/8/6/5/4/3/2

Kato Claims 73 through 78, and Takada Claims 3/2, 4/3/2, 5/4/3/2, 6/5/4/3/2, 7/6/5/4/3/2, 8/6/5/4/3/2, and 9/8/6/5/4/3/2 differ from Count 2 in the same aspects that their above-discussed counterparts (Kato Claims 61 and 63 through 72, and Takada Claims 3/1, 4/3/1, 5/4/3/1, 6/5/4/3/1, 7/6/5/4/3/1, 8/6/5/4/3/1, and 9/8/6/5/4/3/1) differ from Count 1. By analogy, Applicant therefore submits that these claims correspond to Count 2.

III. 37 C.F.R. § 41.202(a)(3) — For each count, provide a claim chart comparing at least one claim of each party corresponding to the count and show why the claims interfere within the meaning of 37 C.F.R. § 41.203(a)

The following establishes, for each of Counts 1 and 2, that at least one Kato claim and at least one Takada claim corresponding to the respective counts interfere within the meaning of 37 C.F.R. § 41.203(a). Under that rule, an interference exists only if the subject matter of a claim of one party would, if treated as prior art, have anticipated or rendered obvious the subject matter of a claim of the opposing party, and *vice versa*.

Turning first to Count 1, the following Table 5 shows that Kato Claim 61 and Takada Claim 1 anticipate one another. All limitations are the same except limitations (4) and (5). As regards limitation (4), Kato's "two" vs. Takada's "at least two" does not provide a patentable distinction. As regards limitation (5), Kato's "rotationally non-symmetrical with respect to the optical axis" has the same meaning as Takada's "non-symmetrical with respect to the optical axis" in the context of this claim.

TABLE 5

Kato Claim 61	Takada Claim 1
[(1)] In an optical scanner having a source of a light beam,	[(1)] In an optical scanner having a source of a light beam,
[(2)] a deflector for deflecting said light beam and	[(2)] a deflector for deflecting said light beam and
[(3)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,	[(3)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,

Kato Claim 61	Takada Claim 1
[(4)] the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and independently of the curvatures in the main scanning direction, and	[(4)] the improvement wherein the curvatures in a sub-scanning direction of **at least** two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and independently of the curvatures in the main scanning direction, and
[(5)] wherein the curvatures in the main and sub-scanning directions are **rotationally** non-symmetrical with respect to the optical axis.	[(5)] wherein the curvatures in the main and sub-scanning directions are non-symmetrical with respect to the optical axis.

Turning to Count 2, Kato Claim 62 and Takada Claim 2 anticipate one another for the same reason, as shown by the following Table 6:

TABLE 6

Kato Claim 62	Takada Claim 2
[(1)] In an optical scanner having a source of a light beam,	[(1)] In an optical scanner having a source of a light beam,
[(2)] a deflector for deflecting said light beam and	[(2)] a deflector for deflecting said light beam and

Kato Claim 62	Takada Claim 2
[(3)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,	[(3)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,
[(4)] the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and independently of the curvatures in the main scanning direction, and	[(4)] the improvement wherein the curvatures in a sub-scanning direction of **at least** two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and independently of the curvatures in the main scanning direction, and
[(5)] wherein the curvatures in the main and sub-scanning directions are **rotationally** non-symmetrical with respect to the optical axis,	[(5)] wherein the curvatures in the main and sub-scanning directions are non-symmetrical with respect to the optical axis,
[(6)] wherein the optical magnification of said imaging lens in the sub-scanning direction is constant over the effective scanning region.	[(6)] wherein the optical magnification of said imaging lens in the sub-scanning direction is constant over the effective scanning region.

IV. 37 C.F.R. § 41.202(a)(4) — Explain in detail why the applicant will prevail on priority

Applicant will prevail on priority because:

(a) Applicant is entitled to priority benefit of at least the following dates: (1)February 26, 1996, (2) February 8, 1996, (3) August 31, 1995, (4) February 28, 1995, and (5) September 6, 1994;

(b) All of dates (1)-(5) pre-date Takada, et al. '732's May 10, 1996 U.S. filing date; and

(c) Dates (4) and (5) pre-date Takada, et al. '732's earliest claimed foreign filing date of May 12, 1995.

Thus, Applicant will prevail as to priority of invention.

V. 37 C.F.R. § 41.202(a)(5) — Claim chart showing written description for each claim

Applicant respectfully submits that the following establishes that the terms of Kato Claims 61 through 78, all claims presently pending, are supported by the subject application as follows:

Kato Claims 61 through 78 are supported, e.g., as shown by the following Tables 7 through 24:

TABLE 7

Kato Claim 61	Support in present application
[(a)] In an optical scanner having	[(a)] A scanning optical apparatus is disclosed. See, e.g., p. 1, lines 5-6; p. 7, line 24; p. 8, line 14; p. 9, line 7; p. 11, line 15; p. 19, lines 11-12; p. 23, line 23.

Kato Claim 61	Support in present application
[(b)] a source of a light beam,	[(b)] The scanning optical apparatus includes a light source means 1 (see, e.g., Fig. 4A; p. 24, lines 4-6) or 11 (e.g., Figs. 12A, 16A, 20A; p. 35, lines 9-11).
[(c)] a deflector for deflecting said light beam and	[(c)] The scanning optical apparatus also includes a light deflector 5 (see, e.g., Figs. 4A and 12A; p. 24, lines 18-25; Fig. 16A; p. 41, lines 10-11) or polygon mirror 15 (e.g., Fig. 20A; p. 46, line 23).
[(d)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,	[(d)] The scanning optical apparatus further includes an fθ lens 6 (Fig. 4A), 36 (Fig. 12A), 46 (Fig. 16A), or 56 (Fig. 20A) that causes the beam of light deflected by the light deflector to be imaged on a surface. See, e.g., p. 24, line 26 through p. 25, line 5 (Fig. 4A); p. 35, line 24 (Fig. 12A); p. 41, line 19 (Fig. 16A); p. 46, line 20 (Fig. 20A).

Kato Claim 61	Support in present application
[(e)] the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and	[(e)] Both lens surfaces of the fθ lens (6, 36, 46, 56) have curvatures in the sub-scanning direction that vary continuously from the on-axis toward the off-axis in the effective portion of the lens. See, e.g., p. 25, lines 5-12 (Fig. 5); p. 37, lines 14-17, and p. 39, lines 5-7 (Fig. 13); p. 39, line 27 through p. 40, line 5, and p. 41, lines 23-25 (Fig. 18); p. 49, lines 3-7 and 21-25 (Fig. 22).
[(f)] independently of the curvatures in the main scanning direction, and	[(f)] The lens shape in the sub-scanning plane is independent of the lens shape in the main scanning plane. See, e.g., p. 8, lines 9 to 10 and 27. See also, e.g., equations (c) & (d) and Table 1, p. 26, line 25 through p. 28; equation (e) and Table 3, p. 36 through p. 37, line 13; equation (f) and Tables 4 and 5, p. 41, line 25 through p. 42, line 8, and pp. 44, 48; Table 2, Page 32; and Table 6, Page 53.
[(g)] wherein the curvatures in the main and sub-scanning directions are rotationally non-symmetrical with respect to the optical axis.	[(g)] See (f) above.

TABLE 8

Kato Claim 62	Support in present application
An optical scanner according to claim 61, wherein the optical magnification of said imaging lens in the sub-scanning direction is constant over the effective scanning region.	[(h)] p. 19, lines 17-18; p. 23, lines 9-11; and p. 38, lines 18-22 ("the lateral magnification in the sub-scanning direction... can be uniformized....").

TABLE 9

Kato Claim 63	Support in present application
An optical scanner according to claim 61, wherein said imaging lens is a single lens.	[(h)] See, e.g., lenses 6 (Fig. 4A), 26 (Fig. 8A), 36 (Fig. 12A), 46 (Fig. 16A), and 56 (Fig. 20A); see also p. 46, line 6 (see, e.g., Embodiments 1-5).

TABLE 10

Claim 64	Support in present application
An optical scanner according to claim 63, wherein said imaging lens satisfies the following requirement: the entrance face of said imaging lens has a cross section taken in the sub-scanning direction which is concave at the center of scanning and convex at either end of scanning.	See, e.g., Fig. 13 (and Figs. 12B(1)-(2); p. 37, lines 17-21); Fig. 18 (and Figs. 16B(1)-(2)); and Fig. 22 (and Figs. 20B(1)-(2)) (see, e.g., Embodiments 3-5).

TABLE 11

Claim 65	Support in present application
An optical scanner according to claim 64, wherein said imaging lens has a surface that is aspheric in the main scanning direction.	See, e.g., p. 26, line 20, and p. 41, lines 20 to 21 ("an aspherical surface shape") (see, e.g., Embodiments 3-5).

TABLE 12

Claim 66	Support in present application
An optical scanner according to claim 65, wherein said imaging lens has a surface having a point of inflection in the main scanning direction.	See, e.g., Figs. 12A, 14, 16A, and 20A (see, e.g., Embodiments 3-5).

TABLE 13

Claim 67	Support in present application
An optical scanner according to claim 65, wherein said light source has a plurality of light-emitting portions.	See, e.g., a multibeam optical system with light source means 11 having a plurality of light source units (e.g., p. 35, lines 7-10; p. 49, line 11; p. 50, line 10) (see, e.g., Embodiments 3-5).

TABLE 14

Claim 68	Support in present application
An optical scanner according to claim 67, wherein that element of the imaging lens which has such a surface that the curvature in the sub-scanning direction varies continuously along the main scanning direction over the effective area of said imaging lens is made of plastic.	See, e.g., p. 11, lines 11-12; p. 25, line 23; p. 40, line 24.

TABLE 15

Claim 69	Support in present application
An optical scanner according to claim 61, wherein said imaging lens has a surface that is aspheric in the main scanning direction.	See 65

TABLE 16

Claim 70	Support in present application
An optical scanner according to claim 69, wherein said imaging lens has a surface having a point of inflection in the main scanning direction.	See 66

TABLE 17

Claim 71	Support in present application
An optical scanner according to claim 61, wherein said light source has a plurality of light-emitting portions.	See 67

TABLE 18

Claim 72	Support in present application
An optical scanner according to claim 71, wherein that element of the imaging lens which has such a surface that the curvature in the sub-scanning direction varies continuously along the main scanning direction over the effective area of said imaging lens is made of plastic.	See 68

TABLE 19

Claim 73	Support in present application
An optical scanner according to claim 62, wherein said imaging lens is a single lens.	See 63

TABLE 20

Claim 74	Support in present application
An optical scanner according to claim 73, wherein said imaging lens satisfies the following requirement: the entrance face of said imaging lens has a cross section taken in the sub-scanning direction which is concave at the center of scanning and convex at either end of scanning.	See 64

TABLE 21

Claim 75	Support in present application
An optical scanner according to claim 74, wherein said imaging lens has a surface that is aspheric in the main scanning direction.	See 65

TABLE 22

Claim 76	Support in present application
An optical scanner according to claim 75, wherein said imaging lens has a surface having a point of inflection in the main scanning direction.	See 66

TABLE 23

Claim 77	Support in present application
An optical scanner according to claim 75, wherein said light source has a plurality of light-emitting portions.	See 67

TABLE 24

Claim 78	Support in present application
An optical scanner according to claim 77, wherein that element of the imaging lens which has such a surface that the curvature in the sub-scanning direction varies continuously along the main scanning direction over the effective area of said imaging lens is made of plastic.	See 68

VI. 37 C.F.R. § 41.202(a)(6) — Chart showing additional constructive reductions to practice of counts

The following earlier applications constitute constructive reductions to practice of proposed Counts 1 and 2, and thus Applicant is entitled to priority benefit of their filing dates:

(1) U.S. Patent Application No. 08/607,169 filed February 26, 1996 (the "'169 Application" — the present application is a filewrapper continuation

(under prior 37 C.F.R. § 1.62) of the '169 application, and, therefore, the specification and drawings of these applications as filed are identical);

(2) Japanese Patent Application No. 7-66991 filed February 28, 1995 (the "'991 Application");

(3) Japanese Patent Application No. 8-46741 filed February 8, 1996 (the "'741 Application");

(4) U.S. Patent Application No. 08/522,118 filed August 31, 1995, Patent No. 5,818,505 issued October 6, 1998 (the "'118 Application"; a copy of the specification and drawings was filed with the March 9, 2001 response); and

(5) Japanese Patent Application No. 6-239386 filed September 6, 1994 (the "'386 Application", a certified copy of which was filed on November 16, 1995, in the '118 Application).

Applicant is providing below Tables 25 through 30 which show (with respect to the "(a)" alternatives of the counts) that the terms of the counts are supported in these five applications (the "(b)" alternatives are supported for the same reasons). References in Table 27 and 29 are to the pages and line numbers of the sworn English translations filed March 16, 2000, while references in Tables 28 and 30 to the '386 Application are to the sworn English translation filed March 9, 2001.

TABLE 25

Count 1	'169 Application
[(a)] In an optical scanner having	[(a)] A scanning optical apparatus is disclosed. See, e.g., p. 1, lines 5-6; p. 7, line 24; p. 8, line 14; p. 9, line 7; p. 11, line 15; p. 19, lines 11-12; p. 23, line 23.
[(b)] a source of a light beam,	[(b)] The scanning optical apparatus includes a light source means 1 (see, e.g., Fig. 4A; p. 24, lines 4-6) or 11 (e.g., Figs. 12A, 16A, 20A; p. 35, lines 9-11).
[(c)] a deflector for deflecting said light beam and	[(c)] The scanning optical apparatus also includes a light deflector 5 (see, e.g., Figs. 4A and 12A; p. 24, lines 18-25; Fig. 16A; p. 41, lines 10-11) or polygon mirror 15 (e.g., Fig. 20A; p. 46, line 23).

Count 1	'169 Application
[(d)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,	[(d)] The scanning optical apparatus further includes an fθ lens 6 (Fig. 4A), 36 (Fig. 12A), 46 (Fig. 16A), or 56 (Fig. 20A) that causes the beam of light deflected by the light deflector to be imaged on a surface. See, e.g., p. 24, line 26 through p. 25, line 5 (Fig. 4A); p. 35, line 24 (Fig. 12A); p. 41, line 19 (Fig. 16A); p. 46, line 20 (Fig. 20A).
[(e)] the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and	[(e)] Both lens surfaces of the fθ lens (6, 36, 46, 56) have curvatures in the sub-scanning direction that vary continuously from the on-axis toward the off-axis in the effective portion of the lens. See, e.g., p. 25, lines 5-12 (Fig. 5); p. 37, lines 14-17, and p. 39, lines 5-7 (Fig. 13); p. 39, line 27 through p. 40, line 5, and p. 41, lines 23-25 (Fig. 18); p. 49, lines 3-7 and 21-25 (Fig. 22).

Count 1	'169 Application
[(f)] independently of the curvatures in the main scanning direction, and	[(f)] The lens shape in the sub-scanning plane is independent of the lens shape in the main scanning plane. See, e.g., p. 8, lines 9 to 10 and 27. See also, e.g., equations (c) & (d) and Table 1, p. 26, line 25 through p. 28; equation (e) and Table 3, p. 36 through p. 37, line 13; equation (f) and Tables 4 and 5, p. 41, line 25 through p. 42, line 8, and pp. 44, 48; Table 2, Page 32; and Table 6, Page 53.
[(g)] wherein the curvatures in the main and sub-scanning directions are rotationally non-symmetrical with respect to the optical axis.	[(g)] See (f) above.

TABLE 26

Count 2	'169 Application
[(a)] In an optical scanner having	[(a)] A scanning optical apparatus is disclosed. See, e.g., p. 1, lines 5-6; p. 7, line 24; p. 8, line 14; p. 9, line 7; p. 11, line 15; p. 19, lines 11-12; p. 23, line 23.

Count 2	'169 Application
[(b)] a source of a light beam,	[(b)] The scanning optical apparatus includes a light source means 1 (see, e.g., Fig. 4A; p. 24, lines 4-6) or 11 (e.g., Figs. 12A, 16A, 20A; p. 35, lines 9-11).
[(c)] a deflector for deflecting said light beam and	[(c)] The scanning optical apparatus also includes a light deflector 5 (see, e.g., Figs. 4A and 12A; p. 24, lines 18-25; Fig. 16A; p. 41, lines 10-11) or polygon mirror 15 (e.g., Fig. 20A; p. 46, line 23).
[(d)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,	[(d)] The scanning optical apparatus further includes an fθ lens 6 (Fig. 4A), 36 (Fig. 12A), 46 (Fig. 16A), or 56 (Fig. 20A) that causes the beam of light deflected by the light deflector to be imaged on a surface. See, e.g., p. 24, line 26 through p. 25, line 5 (Fig. 4A); p. 35, line 24 (Fig. 12A); p. 41, line 19 (Fig. 16A); p. 46, line 20 (Fig. 20A).

Count 2	'169 Application
[(e)] the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and	[(e)] Both lens surfaces of the fθ lens (6, 36, 46, 56) have curvatures in the sub-scanning direction that vary continuously from the on-axis toward the off-axis in the effective portion of the lens. See, e.g., p. 25, lines 5-12 (Fig. 5); p. 37, lines 14-17, and p. 39, lines 5-7 (Fig. 13); p. 39, line 27 through p. 40, line 5, and p. 41, lines 23-25 (Fig. 18); p. 49, lines 3-7 and 21-25 (Fig. 22).
[(f)] independently of the curvatures in the main scanning direction, and	[(f)] The lens shape in the sub-scanning plane is independent of the lens shape in the main scanning plane. See, e.g., p. 8, lines 9 to 10 and 27. See also, e.g., equations (c) & (d) and Table 1, p. 26, line 25 through p. 28; equation (e) and Table 3, p. 36 through p. 37, line 13; equation (f) and Tables 4 and 5, p. 41, line 25 through p. 42, line 8, and pp. 44, 48; Table 2, Page 32; and Table 6, Page 53.
[(g)] wherein the curvatures in the main and sub-scanning directions are rotationally non-symmetrical with respect to the optical axis,	[(g)] See (f) above.

Count 2	'169 Application
[(h)] wherein the optical magnification of said imaging lens in the sub-scanning direction is constant over the effective scanning region.	[(h)] p. 19, lines 17-18; p. 23, lines 9-11; and p. 38, lines 18-22 ("the lateral magnification in the sub-scanning direction... can be uniformized....").

TABLE 27

Count 1	support in '991 Application	support in '741 Application
[(a)] In an optical scanner having	[(a)] A scanning optical apparatus is disclosed. See, e.g., p. 1, [Claim 1], line 1; p. 4, [0001], lines 2-3; p. 12, [0017], lines 2-4.	[(a)] See, e.g., p. 1, [Claim 1], line 1; p. 8, [0001], lines 2-3; pp. 17-18, [0020], lines 2-4.
[(b)] a source of a light beam,	[(b)] The scanning optical apparatus includes a light source means 1. See, e.g., p. 20, [0033], lines 1-2; p. 29, [0052], lines 4-6; Figs. 1, 3.	[(b)] See, e.g., p. 29, [0040]; p. 49, [0075], lines 2-3; Figs. 1, 3, 13, 14 (light source means 1 and 11).

Count 1	support in '991 Application	support in '741 Application
[(c)] a deflector for deflecting said light beam and	[(c)] The scanning optical apparatus also includes a light deflector 5. See, e.g., p. 21, [0036]; Figs. 1, 3.	[(c)] See, e.g., p. 30, [0043], p. 49, [0075], lines 13-14; p. 55, [0086], lines 8-10; Figs. 1, 3, 13, 14 (polygon mirror 5 and 15).
[(d)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,	[(d)] The scanning optical apparatus further includes an fθ lens 6 (Fig. 1) or 36 (Fig. 3) that causes the beam of light deflected by the light deflector to be imaged on a surface. See, e.g., p. 21, [0037], lines 1-3 and 14-18; p. 32, [0058], line 4; Figs. 1, 3.	[(d)] See, e.g., p. 30, [0044], lines 1-3 and 18-21; p. 49, [0075], lines 14-16; Figs. 1, 3, 13, 14 (lens 6, 36, 56).

Count 1	support in '991 Application	support in '741 Application
[(e)] the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and	[(e)] Both lens surfaces of the fθ lens (6, 36) have curvatures in the sub-scanning direction that vary continuously from the on-axis toward the off-axis in the effective portion of the lens. See, e.g., p. 21, [0037], lines 7-14; p. 29, [0053], lines 1-14; p. 31, [0056], lines 1-4; p. 33, [0060], lines 1-3; Figs. 7, 9.	[(e)] See, e.g., p. 20, [0023], p. 30, [0044], lines 7-14; p. 47, [0070], lines 1-3; p. 48, [0073], lines 1-6; p. 54, [0082], lines 3-7; p. 58, lines 3-7; Figs. 4, 6, 19, 20 (lens 6, 36, 46, 56).

Count 1	support in '991 Application	support in '741 Application
[(f)] independently of the curvatures in the main scanning direction, and	[(f)] The lens shape in the sub-scanning plane is independent of the lens shape in the main scanning plane. See, e.g., p. 11, [0015], line 14; pp. 23-24, [0041]-[0042], equations (c) and (d); p. 30, [0055], lines 3-6 and equation (e); Figs. 4-6.	[(f)] See, e.g., p. 16, [0018], line 14; p. 17, [0019], line 15; p. 33, [0048], equations (c) and (d); p. 45, [0065], lines 3-6 and equation (e); p. 50, [0076], lines 7-15 and equation (f); Tables 1-5.
[(g)] wherein the curvatures in the main and sub-scanning directions are rotationally non-symmetrical with respect to the optical axis.	See (f)	See (f)

TABLE 28

Count 1	support in '118 Application	support in '386 Application
[(a)] In an optical scanner having	[(a)] An optical scanning apparatus is disclosed. See, e.g., p. 1, lines 9-12; p. 5, lines 14 and 24; p. 9, lines 21-22; p. 16, line 18; p. 17, lines 12-13; p. 24, lines 11-13; Fig. 2.	[(a)] See, e.g., p. 1, [Claim 1], line 1; p. 3, [0001], lines 2-4; p. 8, [0014], lines 2-3; p. 8, [0015], lines 2-3; p. 17, [0037], lines 3-4; p. 18, [0038], line 10; p. 26, [0058], lines 15-16; Fig. 1.
[(b)] a source of a light beam,	[(b)] The optical scanning apparatus includes a light source means 1. See, e.g., p. 1, line 14; p. 5, line 25; p. 6, lines 1 and 2; p. 10, lines 6-12; Fig. 2.	[(b)] See, e.g., p. 1, [Claim 1], line 3; p. 3, [0001], lines 7-8; p. 8, [0015], line 5; Fig. 1; p. 10, [0018], lines 1-2; p. 10, [0019], line 3.

Count 1	support in '118 Application	support in '386 Application
[(c)] a deflector for deflecting said light beam and	[(c)] The optical scanning apparatus also includes an optical deflector 5. See, e.g., p. 1, lines 15 and 16; p. 6, lines 2 and 6; p. 10, lines 16-25; p. 11, lines 9-11; p. 12, lines 14-16 and 24; p. 13, line 8; p. 14, line 22; p. 17, lines 13-14; p. 20, line 12; p. 21, lines 3, 7 and 8; p. 23, line 5; p. 25, lines 7-8; Fig. 2.	[(c)] See, e.g., p. 1, [claim 1], lines 7-8 and lines 11-12; p. 3, [0001], line 9; p. 8, [0015], lines 9-10 and 13; Fig. 1; p. 11, [0020], lines 5-6; p. 11, [0021]; p. 11, [0022], lines 4-5, 10, and 12-13; p. 13, [0025], lines 10-14; p. 13, [0026], lines 5-6; p. 13 [0027], line 2; p. 15, [0031], line 2; p. 18, [0038], line 12; p. 21, [0046], line 10; p. 22, [0049], lines 6 and 11, p. 24, [0055], line 10.

Count 1	support in '118 Application	support in '386 Application
[(d)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,	[(d)] The optical scanning apparatus further includes an fθ lens 6 (Fig. 2) or 26 (Fig. 7) that causes luminous flux deflected by the optical deflector to be imaged on a surface to be scanned. See, e.g., p. 1, lines 17 and 18; p. 11, lines 1-13; p. 12, lines 1, 16, and 24; p. 13, lines 4-6, 8-10, and 21-22; p. 14, line 16 and 17; p. 15, lines 6-7, and 24; p. 16, lines 1-3; p. 17, line 9, 20, and 22-23; p. 18, lines 5 and 10; p. 19, line 5; p. 20, lines 4-7, and 25; p. 21, lines 7, 15-18, 21, and 23; p. 22, lines 3, 4, and 22-24; p. 23, lines 8, 18, and 21-23; p. 24, lines 1 and 5; p. 25, line 9.	[(d)] See, e.g., p. 1, [Claim 1], line 9; p. 3, [0001], line 12; p. 9, [0015], line 11, Fig. 1; p. 11, [0022], lines 1-11; p. 12, [0023], lines 4, 6, and 7; p. 12, [0024], line 1; p. 13, [0025], lines 13-14; p. 13, [0026], lines 4 and 10-11; p. 13, [0027], line 2; p. 15, [0030], lines 1-2; p. 16, [0032], lines 9-10; p. 16, [0034], lines 11 and 13-14, p. 18, [0038], lines 3 and 6; p. 18, [0039], line 5, p. 19, [0040], lines 1 and 7, P. 20, [0043], lines 1-5; p. 22, [0049], lines 2 and 10-11; p. 23, [0051], lines 2 and 4; p. 23, [0052], lines 1-5, Fig. 6; p. 24, [0056], line 2; p. 25, [0057], lines 2 and 4-5; p. 25, [0058], lines 3 and 9.

Count 1	support in '118 Application	support in '386 Application
[(e)] the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and	[(e)] Curvature of the sub-scanning plane of at least one of both lens surfaces Ra and Rb of the fθ lens changes successively in the effective range of the lens. See, e.g., p. 7, lines 18-21; p. 11, lines 14-20; p. 18, lines 8 and 9; p. 27, lines 6-9.	[(e)] See, e.g., p. 2, [Claim 2], lines 2-8; pp. 9-10, [0016], lines 1-7; p. 12, [0023], lines 1-6; p. 19, [0040], lines 4-6.
[(f)] independently of the curvatures in the main scanning direction, and	[(f)] The lens shape in the sub-scanning plane is independent of the lens shape in the main scanning plane as shown by the equations. See, e.g., p. 11, lines 3-7; p. 18, line 15 through p. 19, line 2.	[(f)] See, e.g., p. 9, [0015], lines 14-16; Fig. 1; p. 11, [0022], lines 5-7; p. 19, [0040], lines 1-15, Eq. 2; p. 19, [0041], lines 1-9, Eq. 3; p. 20, [0042], lines 1-4; Fig. 7, Fig. 8.

Count 1	support in '118 Application	support in '386 Application
[(g)] wherein the curvatures in the main and sub-scanning directions are rotationally non-symmetrical with respect to the optical axis.	[(g)] See (f)	[(g)] See (f)

TABLE 29

Count 2	support in '991 Application	support in '741 Application
[(a)] In an optical scanner having	[(a)] A scanning optical apparatus is disclosed. See, e.g., p. 1, [Claim 1], line 1; p. 4, [0001], lines 2-3; p. 12, [0017], lines 2-4.	[(a)] See, e.g., p. 1, [Claim 1], line 1; p. 8, [0001], lines 2-3; pp. 17-18, [0020], lines 2-4.
[(b)] a source of a light beam,	[(b)] The scanning optical apparatus includes a light source means 1. See, e.g., p. 20, [0033], lines 1-2; p. 29, [0052], lines 4-6; Figs. 1, 3.	[(b)] See, e.g., p. 29, [0040]; p. 49, [0075], lines 2-3; Figs. 1, 3, 13, 14 (light source means 1 and 11).

Count 2	support in '991 Application	support in '741 Application
[(c)] a deflector for deflecting said light beam and	[(c)] The scanning optical apparatus also includes a light deflector 5. See, e.g., p. 21, [0036]; Figs. 1, 3.	[(c)] See, e.g., p. 30, [0043], p. 49, [0075], lines 13-14; p. 55, [0086], lines 8-10; Figs. 1, 3, 13, 14 (polygon mirror 5 and 15).
[(d)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,	[(d)] The scanning optical apparatus further includes an fθ lens 6 (Fig. 1) or 36 (Fig. 3) that causes the beam of light deflected by the light deflector to be imaged on a surface. See, e.g., p. 21, [0037], lines 1-3 and 14-18; p. 32, [0058], line 4; Figs. 1, 3.	[(d)] See, e.g., p. 30, [0044], lines 1-3 and 18-21; p. 49, [0075], lines 14-16; Figs. 1, 3, 13, 14 (lens 6, 36, 56).

Count 2	support in '991 Application	support in '741 Application
[(e)] the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and	[(e)] Both lens surfaces of the fθ lens (6, 36) have curvatures in the sub-scanning direction that vary continuously from the on-axis toward the off-axis in the effective portion of the lens. See, e.g., p. 21, [0037], lines 7-14; p. 29, [0053], lines 1-14; p. 31, [0056], lines 1-4; p. 33, [0060], lines 1-3; Figs. 7, 9.	[(e)] See, e.g., p. 20, [0023], p. 30, [0044], lines 7-14; p. 47, [0070], lines 1-3; p. 48, [0073], lines 1-6; p. 54, [0082], lines 3-7; p. 58, lines 3-7; Figs. 4, 6, 19, 20 (lens 6, 36, 46, 56).

Count 2	support in '991 Application	support in '741 Application
[(f)] independently of the curvatures in the main scanning direction, and	[(f)] The lens shape in the sub-scanning plane is independent of the lens shape in the main scanning plane. See, e.g., p. 11, [0015], line 14; pp. 23-24, [0041]-[0042], equations (c) and (d); p. 30, [0055], lines 3-6 and equation (e); Figs. 4-6.	[(f)] See, e.g., p. 16, [0018], line 14; p. 17, [0019], line 15; p. 33, [0048], equations (c) and (d); p. 45, [0065], lines 3-6 and equation (e); p. 50, [0076], lines 7-15 and equation (f); Tables 1-5.
[(g)] wherein the curvatures in the main and sub-scanning directions are rotationally non-symmetrical with respect to the optical axis,	See (f)	See (f)
[(h)] wherein the optical magnification of said imaging lens in the sub-scanning direction is constant over the effective scanning region.	pp. 18-19, [0028], lines 10-11; p. 28, [0050], lines 2-6; pp. 28-29, [0051], lines 10-13; p. 32, [0058].	p. 24, [0027], lines 5-8; p. 27, [0031]; p. 41, [0059]; pp. 41-42, [0060]; pp. 46-47, [0068]; p. 70, [0107].

TABLE 30

Count 2	support in '118 Application	support in '386 Application
[(a)] In an optical scanner having	[(a)] An optical scanning apparatus is disclosed. See, e.g., p. 1, lines 9-12; p. 5, lines 14 and 24; p. 9, lines 21-22; p. 16, line 18; p. 17, lines 12-13; p. 24, lines 11-13; Fig. 2.	[(a)] See, e.g., p. 1, [Claim 1], line 1; p. 3, [0001], lines 2-4; p. 8, [0014], lines 2-3; p. 8, [0015], lines 2-3; p. 17, [0037], lines 3-4; p. 18, [0038], line 10; p. 26, [0058], lines 15-16; Fig. 1.
[(b)] a source of a light beam,	[(b)] The optical scanning apparatus includes a light source means 1. See, e.g., p. 1, line 14; p. 5, line 25; p. 6, lines 1 and 2; p. 10, lines 6-12; Fig. 2.	[(b)] See, e.g., p. 1, [Claim 1], line 3; p. 3, [0001], lines 7-8; p. 8, [0015], line 5; Fig. 1; p. 10, [0018], lines 1-2; p. 10, [0019], line 3.

Count 2	support in '118 Application	support in '386 Application
[(c)] a deflector for deflecting said light beam and	[(c)] The optical scanning apparatus also includes an optical deflector 5. See, e.g., p. 1, lines 15 and 16; p. 6, lines 2 and 6; p. 10, lines 16-25; p. 11, lines 9-11; p. 12, lines 14-16 and 24; p. 13, line 8; p. 14, line 22; p. 17, lines 13-14; p. 20, line 12; p. 21, lines 3, 7 and 8; p. 23, line 5; p. 25, lines 7-8; Fig. 2.	[(c)] See, e.g., p. 1, [claim 1], lines 7-8 and lines 11-12; p. 3, [0001], line 9; p. 8, [0015], lines 9-10 and 13; Fig. 1; p. 11, [0020], lines 5-6; p. 11, [0021]; p. 11, [0022], lines 4-5, 10, and 12-13; p. 13, [0025], lines 10-14; p. 13, [0026], lines 5-6; p. 13 [0027], line 2; p. 15, [0031], line 2; p. 18, [0038], line 12; p. 21, [0046], line 10; p. 22, [0049], lines 6 and 11, p. 24, [0055], line 10.

Count 2	support in '118 Application	support in '386 Application
[(d)] an imaging lens that focuses the deflected light beam to form a beam spot on a surface to be scanned,	[(d)] The optical scanning apparatus further includes an fθ lens 6 (Fig. 2) or 26 (Fig. 7) that causes luminous flux deflected by the optical deflector to be imaged on a surface to be scanned. See, e.g., p. 1, lines 17 and 18; p. 11, lines 1-13; p. 12, lines 1, 16, and 24; p. 13, lines 4-6, 8-10, and 21-22; p. 14, line 16 and 17; p. 15, lines 6-7, and 24; p. 16, lines 1-3; p. 17, line 9, 20, and 22-23; p. 18, lines 5 and 10; p. 19, line 5; p. 20, lines 4-7, and 25; p. 21, lines 7, 15-18, 21, and 23; p. 22, lines 3, 4, and 22-24; p. 23, lines 8, 18, and 21-23; p. 24, lines 1 and 5; p. 25, line 9.	[(d)] See, e.g., p. 1, [Claim 1], line 9; p. 3, [0001], line 12; p. 9, [0015], line 11, Fig. 1; p. 11, [0022], lines 1-11; p. 12, [0023], lines 4, 6, and 7; p. 12, [0024], line 1; p. 13, [0025], lines 13-14; p. 13, [0026], lines 4 and 10-11; p. 13, [0027], line 2; p. 15, [0030], lines 1-2; p. 16, [0032], lines 9-10; p. 16, [0034], lines 11 and 13-14, p. 18, [0038], lines 3 and 6; p. 18, [0039], line 5, p. 19, [0040], lines 1 and 7, P. 20, [0043], lines 1-5; p. 22, [0049], lines 2 and 10-11; p. 23, [0051], lines 2 and 4; p. 23, [0052], lines 1-5, Fig. 6; p. 24, [0056], line 2; p. 25, [0057], lines 2 and 4-5; p. 25, [0058], lines 3 and 9.

Count 2	support in '118 Application	support in '386 Application
[(e)] the improvement wherein the curvatures in a sub-scanning direction of two of the surfaces of said imaging lens vary continuously along a main scanning direction over the effective area of said imaging lens and	[(e)] Curvature of the sub-scanning plane of at least one of both lens surfaces Ra and Rb of the fθ lens changes successively in the effective range of the lens. See, e.g., p. 7, lines 18-21; p. 11, lines 14-20; p. 18, lines 8 and 9; p. 27, lines 6-9.	[(e)] See, e.g., p. 2, [Claim 2], lines 2-8; pp. 9-10, [0016], lines 1-7; p. 12, [0023], lines 1-6; p. 19, [0040], lines 4-6.
[(f)] independently of the curvatures in the main scanning direction, and	[(f)] The lens shape in the sub-scanning plane is independent of the lens shape in the main scanning plane as shown by the equations. See, e.g., p. 11, lines 3-7; p. 18, line 15 through p. 19, line 2.	[(f)] See, e.g., p. 9, [0015], lines 14-16; Fig. 1; p. 11, [0022], lines 5-7; p. 19, [0040], lines 1-15, Eq. 2; p. 19, [0041], lines 1-9, Eq. 3; p. 20, [0042], lines 1-4; Fig. 7, Fig. 8.

Count 2	support in '118 Application	support in '386 Application
[(g)] wherein the curvatures in the main and sub-scanning directions are rotationally non-symmetrical with respect to the optical axis,	[(g)] See (f)	[(g)] See (f)
[(h)] wherein the optical magnification of said imaging lens in the sub-scanning direction is constant over the effective scanning region.	p. 5, lines 6-10 and 15-18; p. 13, line 23 through p. 14, line 9; p. 14, lines 19-20; p. 20, lines 1-3; p. 21, lines 4-6; p. 22, lines 18-19; p. 23, lines 12-14; p. 24, lines 9-11.	p. 7, [0013], lines 4-8; p. 8, [0014], lines 4-7; p. 14, [0028], lines 1-12; p. 16, [0030], lines 5-6; p. 21, [0045], lines 5-8; p. 22, [0049], lines 7-9; p. 24, [0054], lines 5-8; p. 25, [0056], lines 7-9, pp. 25-26, [0058], lines 13-15.

E. Summary of proposed interference

The following Tables 31 and 32 summarize Applicant's proposal for the interference, with Counts 1 and 2 as proposed above:

TABLE 31

Applicant (**Senior Party**):	Manabu Kato

Application No.:	Application No. 08/951,635 filed October 17, 1997
For:	SCANNING OPTICAL APPARATUS
Assignee:	Canon Kabushiki Kaisha
Accorded Benefit (for Counts 1 and 2):	(1) U.S. Patent Application No. 08/607,169 filed February 26, 1996; (2) Japanese Patent Application No. 7-66991 filed February 28, 1995; and (3) Japanese Patent Application No. 8-46741 filed February 8, 1996; (4) U.S. Patent Application No. 08/522,118 filed August 31, 1995, Patent No. 5,818,505 issued October 6, 1998; and (5) Japanese Patent Application No. 6-239386 filed September 6, 1994.
Claims corresponding to Count 1:	Kato Claims 61, 63-72
Claims corresponding to Count 2:	Kato Claims 62, 73-78

TABLE 32

Patentee (**Junior Party**)	Koichi Takada, Nozomu Inoue, Takahashi Hama, and Yujiro Nomura
Application No.:	Patent No. 5,883,732 issued March 16, 1999 (which issued from U.S. Patent Application No. 08/644,493 filed May 10, 1996)
For:	OPTICAL SCANNER
Assignee:	Seiko Epson Corporation
Claims corresponding to Count 1:	Takada Claims 1, 3/1, 4/3/1, 5/4/3/1, 6/5/4/3/1, 7/6/5/4/3/1, 8/6/5/4/3/1, 9/8/6/5/4/3/1, and 10-13

Claims corresponding to Count 2:	Takada Claims 2, 3/2, 4/3/2, 5/4/3/2, 6/5/4/3/2, 7/6/5/4/3/2, 8/6/5/4/3/2, and 9/8/6/5/4/3/2

In view of the foregoing, Applicant respectfully requests that an interference be declared as proposed above. If any question remain, Applicant respectfully requests that the Examiner contact Applicant's undersigned representative at (202) 530-1010.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

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